track repairs without disrupting bus service. A single lane busway could be constructed at lower cost.)

This trip reduction "package" includes the following on-site policies:

- Provide a minimum of 6 million square feet of academic, administrative, research and housing development on the Horace Williams property at full build out. (The distribution of density is less important than for the rail option described below.)
- Provide very efficient on-site bus service to the busway and/or transit stop from site areas which are beyond easy walking distance. Provide an on-site environment that encourages walking and biking.
- Offer expanded flextime work schedules (as compared to policy "package")
- Offer a free ride home program for employees who do not bring a car to the site.
- Provide parking for no more than 50% of the on-site employees.
- Price all parking fees at market rates (i.e., no free parking).
- Provide significant subsidies or free transit passes to on-site transit users in lieu of free parking.
- Implement a strong ridesharing program.

The following policies which pertain to off-site land use and transportation are also included in this trip reduction "package:"

- Promote additional development along the busway corridor (for example, by implementing the recommended Northwest Area Plan and by encouraging infill and/or higher density redevelopment at other locations adjacent to the rail corridor).
- Implement strong transportation management policies in Chapel Hill (especially downtown and Central Campus) and the Triangle region including, for example, parking restrictions, park-and-ride lots and ridesharing programs.
- Significantly improve regional transit and expand the use of high occupancy vehicle (HOV) and bus lanes.
- Permit the road system to become congested to encourage drivers to select an alternative mode (transit, bike, walking) mode of travel.

4. **Rail Transit Service with Aggressive Trip Reduction Policies.** This trip reduction "package" includes rail transit service in the University/Norfolk Southern corridor (again extending from Eubanks Road to the University cogeneration plant on Cameron Street) and assumes the construction of a rail link along Franklin Street to a terminal located just west of Columbia Street. (It should be noted that none of the options for extending rail service 2,000 feet from the cogeneration plant to Columbia Street, and the Central Campus, is without major drawbacks. Further study would be required to define a preferred option and assess its feasibility.) The order-of-magnitude estimate of capital costs for rail transit service also assumes the use of self-propelled, diesel-powered rail cars that can operate on the existing rail tracks, as has been proposed for the regional rail system being studied by the Triangle Transit Authority. The estimated cost of such a rail transit system is approximately $25 million.

On-site trip reduction policies include the following:

- Develop a minimum of 5 million square feet within 1/4 mile of the proposed transit station(s) in mixed-use University Village districts; locate the highest density of development within 1/8 mile of the transit station.
- Provide an on-site environment that encourages walking and biking (especially within the University Village districts).
- Provide shuttle bus service to link other on-site users to the transit stop(s).
- Provide parking for only 40% of on-site employees and price parking at market rates (no free parking).
- Provide subsidies or transit passes to on-site transit users in lieu of free parking.
- Offer cash rebates for car/van poolers.
- Offer expanded flextime work schedules.
- Offer a free ride home program for employees who do not bring a car to the site.
- Adopt other strategies to increase the effectiveness of the on-site rideshare program (over the level to be achieved with the busway).

The following off-site land use and transportation policies are also included in this trip reduction "package:"

- Implement the proposed Northwest Area Plan and encourage additional infill and/or redevelopment along the rail corridor at a level 30% greater than for the busway alternative.

- Implement even more aggressive and mandatory transportation management policies in Chapel Hill, in particular, and the region, in general, to make transit a more attractive alternative to automobile use.

- Permit the roadway system to become even more congested than under the busway alternative.

Table 3-1

Summary of Key Trip Reduction Policies

TRANSIT TYPE/TRIP REDUCTION POLICIES			
Bus on Street, plus	**Improved Street Bus, plus**	**Busway ($19+ mill), plus**	**Rail ($25+ mill), plus**
Standard (low level) policies	**Strong policies**	**Aggressive policies**	
On-Site/UNC-CH Bicycle/ pedestrian paths. On-site ridesharing/transit coordinator. Existing transportation policies continued on Central campus only. Flextime, 4-day work week, staggered work hours, telecommute. **External** CH Transit at current service levels. Bicycle and pedestrian connections to outside facilities.	*As for **Low Level**, Plus:* **On-Site/UNC-CH** Site design for easy transit access. Parking fees for all employees, some restrictions for non-Uni employees as well. Transit user/rideshare incentives/subsidies. Guaranteed ride home. Increased flextime, etc. **External** Increased CHT service on Airport Rd and through site. Improved regional transit, Park-and-Ride lots with shuttle services.	*As for **Strong** Plus:* **On-Site/UNC-CH** Minimum 6 mill. SF of transit-supportive uses on site. Very efficient internal bus routes. Parking for only 50% employees. Market rate parking fees. Subsidized/free transit fares. Strong rideshare program. **External** - *Land Use* Additional development in rail corridor (Recommended NW Area plan, and infill or redevelopment at other locations in corridor). **External** - *Transportation* Strong transportation management policies in CH and region (parking restrictions, rideshare programs). Greatly improved regional transit & HOV lanes. Congested road system.	*As for **Busway**, Plus:* **On-Site/UNC-CH** Minimum 5 mill. SF of Uni Village within 1/4 mile of station (max density located within 1/8 mile). Parking for only 40% employees. Cash rebates for car/vanpoolers. Stronger rideshare program than for busway. **External** - *Land Use* High density development in rail station areas (30% more than for busway). **External** - *Transportation* Stronger and mandatory transportation management policies in CH and region compared to busway. More congested road system.

Findings

An analysis of the implications of these trip reduction/transit policy "packages" on the full build out capacity possible in Alternatives A, B and C demonstrated that the "status quo" approach would allow approximately 5 to 6 million gross square feet to be developed without exceeding the threshold of 45,000 cars traveling to and from the site on an average weekday. The package including improved road-based bus service and strong trip reduction policies allowed for 5.7 to 6.5 million gross square feet while honoring the trip generation threshold. The aggressive trip reduction policies in combination with a dedicated busway in the University/Norfolk Southern rail right-of-way (as shown in Alternative C) allowed for a total build out of 6.6 (with commercial on Airport Road) to 7.5 (without commercial on Airport Road) million gross square feet. The aggressive trip reduction package in combination with rail transit service in the University/Norfolk Southern right-of-way allowed for 7.4 to 8.3 (with commercial on Airport Road) million gross square feet (without commercial on Airport Road. Table 3 presents matrix summarizing the results of the analysis.

The foregoing analysis provides illustrative examples that bracket the range of possible build out capacities on the Horace Williams property. This information will be useful to the University in understanding the potential long-term value of the site, and in establishing an incentive to implement effective transportation management policies. Even more important, however, is the introduction of a concept for utilizing a performance-based standard (a threshold of 45,000 automobile trips per average weekday) to allow the University flexibility in planning for the future while ensuring that the density of development on the Horace Williams property meets community expectations for transportation demand management. This approach creates a continuing incentive for the University, the Towns of Chapel Hill and Carrboro and regional agencies to work together to further their mutual interests. In particular, the implementation of the "strong" and "aggressive" trip reduction/transit strategies will require a consensus on land use and transportation planning objectives and a joint commitment to their achievement. Indeed, many of these aggressive trip reduction strategies are essential to the feasibility of a dedicated busway or rail transit service in the University/Norfolk Southern rail corridor. While a number of these policies may be considered radical today, they will become more common and more palatable as the Triangle area becomes more urbanized over the coming decades.

Table 3-2
Trip Reduction Impacts on Build out Capacity

DEVELOPMENT ALTERNATIVE	TRIP REDUCTION POLICIES (3)		
	Standard (Low Level)	**Strong**	**Aggressive**
Alternative A Transit Type	Bus on Street	Improved Bus on Street	Busway
Reduction in External Vehicle Trips (1)	22%	29%	NA
Maximum Floor Area (2)	5.9 mill GSF	6.5 mill GSF	NA
Alternative B Transit Type	Bus on Street	Improved Bus on Street	Busway
Reduction in External Vehicle Trips (1)	22%	32%	NA
Maximum Floor Area (2)	5.0 GSF	5.7 mill GSF	NA
Alternative C (With Commercial) Transit Type	Bus on Street	Improved Bus on Street	Busway/Rail
Reduction in External Vehicle Trips (1)	22%	33%	With Busway - 42% With rail - 49%
Maximum Floor Area (2)	4.9 mill GSF	5.7 mill GSF	Busway-6.6 mill GSF Rail-7.4 mill GSF
Alternative C (No Commercial) Transit Type	Bus on Street	Improved Bus on Street	Busway/Rail
Reduction in External Vehicle Trips (1)	24%	35%	With Busway - 48% With rail - 53%
Maximum Floor Area (2)	5.1 mill GSF	6.0 mill GSF	Busway-7.5 mill GSF Rail-8.3 mill GSF

Notes:
(1) Reduction in vehicle trips resulting from transit and trip reduction policies.
(2) Maximum floor area to remain within future capacity of roadway system with trip reductions (Level of Service E).
(3) See Table 2 for trip reduction policies.

RECOMMENDED LAND USE PLAN

After an extensive review of the land use, circulation density and transportation management alternatives for the Horace Williams property by the University and Community Advisory Committees, the following conclusions became the basis for preparing a recommended land use plan.

- Alternative C (Central University Village) should be used as a the starting point.
- The University Village district should span the existing railroad right-of-way and this potential transit corridor should be protected.
- To the greatest extent possible, proposed Housing districts should be located adjacent to existing off-site housing.
- Utilitarian uses should be located on the existing site of the Chapel Hill municipal operations complex.
- Commercial uses not incorporated in the University Village district should be minimized and located near Airport Road.
- Visitor Destination uses should be located near the north edge of the property.
- Open space should be expanded to provide additional protection for sensitive natural features, particularly Bolin Creek and Crow Branch and steeply sloping wooded areas.
- Major pedestrian/bike paths should be shown to illustrate open space linkages that create a continuous system.
- East - west access between Homestead Road and Seawell School Road/Estes Drive should be provided, but in a manner that will discourage through traffic.
- High School Road should be extended into the site to expand access/egress to the northwest.

Planning Principles

The recommended land use plan embodies the following planning principles which will guide more detailed planning and future development.

1. Preserve significant environmental resources (consistent with the existing RCD ordinance) and concentrate development in the least environmentally sensitive areas.

2. Promote sustainable development by:

   - Mitigating adverse environmental impacts
   - Conserving non-renewable energy and materials resources
   - Designing for energy conservation
   - Cooperating in planning for regional stormwater management and maintaining stormwater discharge quantities from these sites at pre-development levels.

3. Promote the use of mass transit and other alternatives to automobile trips by:

   - Designating and preserving future transit corridors and stops
   - Clustering a mix of uses and the highest densities of development within a 5-minute walk of transit stops
   - Working in partnership with the surrounding communities (and other agencies) to promote mass transit investments and land use patterns that promote its feasibility
   - Providing pedestrian and bikeway linkages to the larger community.

4. Link overall development intensity to the traffic carrying capacity of the surrounding roadway network (assuming a Level of Service E on area roadways will be acceptable in the longer term future). Promote a variety of trip reduction strategies.

5. Provide the flexibility to accommodate unforeseen University needs and to avoid foreclosing future options.

6. Promote a mix of uses across the site to:

   - Support the daily needs of campus residents, students and employees
   - Reduce the need for off-site vehicle trips

7. Especially in the University Village district, encourage a density and scale of development similar in character to the older portion of Central Campus.

   - Create public outdoor spaces as development focal points.
   - Foster a clear pedestrian and transit orientation.

8. Foster visual continuity in the siting and design of buildings to create a consistent, harmonious campus context.

9. Encourage the development of housing affordable to faculty, staff and students.

10. Continue a dialogue with the community on opportunities for shared facilities, including the provision of a public school site on the Horace Williams property if the demand generated by on-site housing for University students, faculty and staff warrants.

11. Promote compatibility between existing off-site uses and on-site development; provide buffers adequate to protect adjacent neighborhoods from noise, lighting, and visual impacts, where appropriate.

12. Enhance the visual character of community entranceways and project a positive campus identity.

13. Encourage traffic distribution and avoid congestion by providing multiple campus entrances. Avoid channeling increased traffic volumes onto the neighborhood streets.

Development Patterns

As illustrated in Figure 3-7 the recommended Land Use Plan closely resembles Alternative C, but incorporates the conclusions reached in the alternatives evaluation. The flexibility needed by the University has been maintained by identifying secondary uses for a number of zones within the site. (Primary uses are shown in larger type and secondary use options are shown in smaller type.) The term "disposition" has also been added as an option on some areas designated as Housing on the perimeter of the site, and on the Home Site, to indicate that the University may wish to consider selling (disposing of) those areas at some point in the future.

Land Use and Open Space. As noted above, open space around Bolin Creek and Crow Branch has been expanded to provide larger buffers to protect these resources. Additional open space has also been incorporated along some of the steeper wooded slopes in the central and northeastern portions of the site make them part of a more continuous open space system. In addition, some areas within development zones have been shown with green cross hatching. It is anticipated that the University will place a low priority on developing these wooded, sloping areas and will only develop in these locations at a much lower density and with special siting guidelines. Generous setbacks of 100' have been provided on most of the site's perimeter with a 250' setback along Airport Road.

The plan illustrates a strong commitment to a higher density, mixed-use development approach to support trip reduction and transit use. Two University Village districts are located in the center of the site to capitalize on the potential of the rail right-of-way as a future transit corridor. Two transit stops, surrounded by higher density development nodes, are recommended. It is anticipated that these areas will be developed to replicate the human scale, pedestrian character and mix of buildings and public spaces that characterize the older portion of the Central Campus.

Table 3-3

Horace Williams Property
Site Development Summary

Total Area	**979 Acres**	
Prior Committed Land	**170 Acres**	**(18%)**
(airport 110 ac.)		
(physical plant 60 ac.)		
Open Space Preservation	**259 Acres**	**(26%)**
(floodplain 57 ac.)		
(stream buffers 64 ac.)		
(misc. setbacks & open space 22 ac.)		
(runway approach zone 116 ac.)		
Developable Land	**550 Acres**	**(56%)**
(University Village 170 ac.)		
(Housing 108 ac.)		
(Independent Use 137 ac.)		
(Utilitarian Use 38 ac.)		
(Visitor Destinations 45 ac.)		
(Active Recreation 34 ac.)		
(Passive Recreation 18 ac.)		
Home Site		
Total Area	57 Acres	
Open Space Preservation	24 Acres	
Developable Land	33 Acres	
• Housing	33 Acres	

Uses on the perimeter of the site have remained generally the same as in Alternative C. However, the Utilitarian Use district has been relocated to the area now occupied by the Town of Chapel Hill municipal operations complex and the Visitor Destination district has been removed from Airport Road. In addition, the extent of potential commercial development near Airport Road has been reduced.

Access and Circulation. As in Alternative C, the recommended land use plan includes multiple access points and an internal road system to allow for the efficient distribution of traffic and promote accessibility while discouraging through traffic. The availability of multiple access points will avoid overloading any particular site entry and/or associated external roads. High School Road has been extended into the site to enhance access. In addition, realignment of the southern portion of Seawell School Road has been proposed to create a loop around the core of the southern University Village district. In the longer term, it is anticipated that Seawell School Road will require widening to 4 lanes.

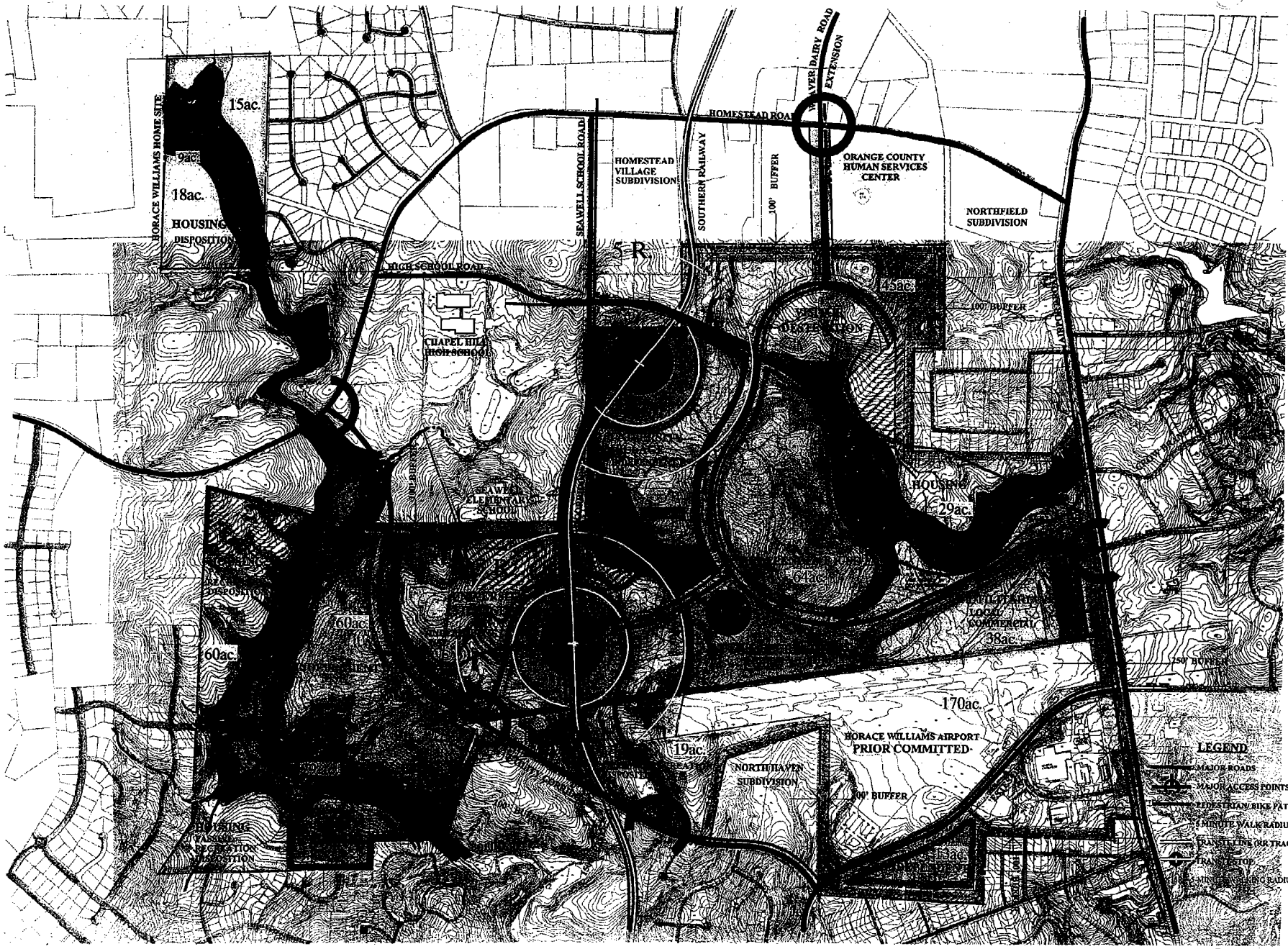
Major bike and pedestrian routes have been illustrated on the plan to document the University's commitment to ensuring that a variety of alternative modes of transportation are available. The alignment of this bicycle/pedestrian system will be confirmed and expanded when planning proceeds to a more detailed level.

Density and Transportation

The recommended land use plan capitalizes on the potential of the existing rail corridor to provide fixed guideway transit service (either busway or rail) connecting to the Central Campus and, possibly, a larger regional transit system. In order to allow flexibility in the future choice of transit technologies, and to accommodate the greenway planned within the rail corridor, an additional 40 feet should be added to the existing 100-foot wide University/Norfolk Southern right-of-way. Road-based buses will provide transit service to the site until such time as the busway or rail option becomes feasible. In addition, on-site, road-based bus service will link those site areas beyond walking distance to the proposed transit stations.

The plan recommends that the overall development capacity, or build out, of the Horace Williams property be tied to a threshold for traffic generation to and from the site (45,000 automobiles per average week day). When already planned improvements have been made to the road network surrounding the site, this amount of traffic from the Horace Williams property can be accommodated at a Level of Service E, the degree of congestion which is found to be acceptable in growing urbanized areas. Analyses of alternative transportation management approaches for the Horace Williams property suggest that between 6.0 and 8.3 million gross square feet of building area could be developed while honoring this traffic generation threshold, depending on the success of trip reduction and transit strategies. The successful implementation of the "aggressive" policies and transit strategies outlined in the preceding chapter will be necessary to achieve the ultimate development potential of the Horace Williams property.

The broader land use planning and transportation management policies which create the necessary climate for cost effective transit investments will require strong coordination and cooperation between the University, the Towns of Chapel Hill and Carrboro, the Triangle



THE UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL

Outlying Properties Land Use Plans

September 1, 1998

FINAL LAND USE PLAN

0 200 500 1000

Horace Williams Property

Figure 3-7

JJR/ PB

Transit Authority and other public agencies. While the community's transportation objectives cannot be achieved without the active cooperation of the University, by itself, a University commitment to transportation-supportive development on the Horace Williams property will not be sufficient. A real partnership is needed to optimize the development potential of the Horace Williams site while at the same time supporting the goals of the larger community.

CONCLUSION

This planning effort has identified and resolved key issues regarding the future use and development of the Horace Williams property. It has resulted in recommendations concerning land use, circulation, density and transit opportunities which are supported by University and community participants. Just as importantly, the process has demonstrated an approach to planning that expands the understanding of all participants and promotes cooperative problem-solving by encouraging an improved dialogue between the University and the local communities. This cooperative approach fosters the regular communication needed to build the trust and respect to facilitate future planning efforts.

This planning effort has served well in assisting the University to solicit and evaluate input from many interested parties in order to reach important decisions about the future of the Horace Williams property. Nevertheless, the resulting plan is the beginning, rather than the end, of the planning process. The plan's fundamental recommendations will inform ongoing collaborative efforts between the University and the Town of Chapel Hill to develop a zoning approach that addresses both University and community priorities. The plan recommendations will also serve as the basis for the development of more detailed sub-area and site plans as specific programs and projects are identified for the Horace Williams site.